

Application No.: 09/196,161

Docket No.: 1459-011

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-8 (Cancelled).

Claims 9-23 (Cancelled).

Claims 24-32 (Cancelled).

33. (Currently amended) A vaccine for immunizing fish against ciliated ectoparasitic protozoans comprising an effective amount of a fusion protein expressed from a recombinant DNA sequence for immobilization antigen, repeat I of *Ichthyophthirius multifiliis*, wherein said [fusion protein is at least one selected from the group consisting of SEQ. ID Nos. 1-17] fusion protein incorporates SEQ. ID. No. 9 or 10 therein or both.

34. (Previously presented) The vaccine of claim 33, wherein the fusion protein is GST-iAgI.

35. (Previously presented) The vaccine of claim 33, further comprising a medium comprising at least one of a buffer, antigen, immunostimulant or carrier.

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36. (Previously presented) The vaccine of claim 33, which, when injected into a fish, provides effective protection against white spot disease caused by *Ichthyophthirius multifiliis*.

37. (Previously presented) The vaccine of claim 33, wherein, the fusion protein is produced by *E. coli*.

38. (Previously presented) The vaccine of claim 36, wherein the disease is caused by at least one ciliated ectoparasitic protozoan.

39. (Previously presented) The vaccine of claim 38, wherein said ciliated ectoparasitic protozoan is *Ichthyophthirius multifiliis*.

40. (Previously presented) The vaccine of claim 38, wherein said ciliated protozoan is taxonomically related to *Ichthyophthirius multifiliis*.

41. (Currently amended) The vaccine of claim 33, wherein said [fusion protein has the sequence of SEQ. ID No. 1] fusion protein incorporates SEQ. ID. No. 9 therein.

42. (Previously presented) The vaccine of claim 34, wherein the fusion protein is produced by *E. coli* containing plasmid construct pGST-iAgl.

43. (Previously presented) The vaccine of claim 33, wherein the fusion protein is

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purified by glutathione sepharose 4B beads.

44. (Previously presented) The vaccine of claim 33, which further comprises Freund's complete adjuvant (FCA), and which vaccine is suitable for administration by injection.

45. (Previously presented) The vaccine of claim 33, which is in a form suitable for administration by intraperitoneal injection, incorporation into fish diet, or immersion or spraying of the fish.

46. (Previously presented) The vaccine of claim 33, in a single dose form, whereby about 3g of fusion protein per gram of fish treated is provided therein.

47. (Cancelled).

48. (Cancelled).

49. (Cancelled)

50. (New) The vaccine of claim 33, wherein said fusion protein incorporates SEQ. ID. No. 10 therein.

51. (New) The vaccine of claim 33, wherein the recombinant DNA sequence further comprises synthetic oligonucleotides .

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52. (New) The vaccine of claim 51, wherein the synthetic oligonucleotides are selected from the group consisting of SEQ. ID. Nos. 11-16.

53. (New) The vaccine of claim 33, wherein the fusion protein is isolated and purified prior to inclusion in the vaccine.